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Agrarian Fakulti

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Approved:

Akaki Tsereteli State University Council of the Faculty of Agriculture According to the resolution of February 22, 2024, protocol No. 13

Dean of the Faculty: _____ Assoc. Professor Marieta Tabagari

Research profile of the Faculty of Agriculture

Kutaisi
2024

Research profile of the Faculty of Agriculture

1.Purpose of the faculty research profile document

The research profile of the Faculty of Agriculture is created taking into account the country's priorities (agrarian field; agribusiness; engineering; tourism) with predetermined directions, in order to conduct scientific research and integrate the obtained results into the educational process. The research profile document presents the current situation and future perspectives of the research conducted at the faculty.

2. Scope of application

The research profile document, by involving the academic staff and students in the scientific-research activity and integrating the research results into the educational process, will contribute to the improvement of the quality of education at the faculty and the development of scientific activities

In addition, information about the results of research conducted at the faculty will be available to interested persons. The research results will be published in local and international refereed journals and will be widely used in enterprises of various fields of agriculture and tourism industry, in customs and agribusiness, as well as in scientific-research institutions and higher education institutions.

3.Brief situational description

The research profile of the Faculty of Agriculture is broad and complex. The topics of the faculty's scientific work are integrated into joint topics, in the implementation of which, within the scope of its competence, the following are involved:

a) 5 departments of the faculty (subtropical crops; agronomic sciences; agroengineering; technology of subtropical crops products; tourism and landscape architecture);

b) teaching-scientific farms supporting the faculty (Nosiri educational-research farm, Geguti educational farm of Mukhiani Sakrebulo);

c) Scientific-research center of agrarian directions;

d) if necessary, those scientific-research and production organizations with which a mutual cooperation agreement has been signed.

The financial provision of the researches that have already been carried out and will be carried out in the future is provided from various sources (faculty budget; funds allocated from various scientific funds for grant projects; international joint projects fund; competition funds announced by non-governmental organizations and international donor organizations, embassies; income received through commercialization, master's and doctoral studies performed within the programs).

A total of 32 scientific research grant projects have been funded and implemented at the Faculty of Agriculture over the last 8 years, with a total funding of 1,623,330 GEL. (Appendix 1), including the number of current grant projects – 3 (Appendix 2)

In addition to this, in the mentioned period, 19 grant projects (with a total funding of 1,954,621 GEL) were submitted to the scientific funds by the faculty's academic staff for competition, the majority of which had the highest scores, but did not receive funding (Appendix 3)

Appendix 1

Grant projects implemented at the faculty:

N	Name	Foundation N	Reason of research	Budget GEL	Period
32	"Consultancy services for evaluation of extension systems at the national level and development of mechanisms/recommendations for system development"	The project "Modernization of the VET system of agriculture in Georgia" funded by the United Nations Development Program (UNDP) and the Swiss Development Agency (SDC)	Fully studying the 10-year extension practice of Georgia, studying the existing extension strategies and relevant action plans, and getting to know the international extension models;	18 000,0	2023-2024 ye
31	"Promoting the development of digital educational resources in professional education".	United Nations Development Program "Modernization of Vocational Education System in Georgian Agriculture". Scientific direction: Agriculture	The goal of the project is to create a digital learning resource "Plant Nutrition". Placing the created digital resource on one of the educational platforms - VETA (https://veta.ge/) and also on the online platform recommended by the Professional Skills Agency - lms.geoskills.ge.	12 000,0	2023-2024 ye.
30	"Using selective methods and integrated management of new technologies, obtaining new forms of citrus with improved agricultural characteristics and distinguishing them for further selective work"	ATSU budget	The aim of the project is to distinguish the improved agricultural traits with the use of selection methods and the integrated management of new technologies as the starting material for further selection work.	132 800,0	2023-2028 ye.
29	"Ways of improving the fertility of alluvial soils in the hazelnut plantation in	ATSU budget	Development of measures to improve soil conditions for zoned hazelnut plantations in the	8250,0	2022-2024 ye.

	the Samegrelo region"		Samegrelo region		
28	Cultivation of medicinal plants in the agroecological environment of Imereti region	ATSU budget	Investigation of the natural flora of Imereti region, introduced species and crops according to their medicinal properties and the selection of species that are currently very relevant as raw materials for the production of medicinal preparations and are generally distinguished by their medicinal value as well as other economic values.	8250,0	2022-2024 ye.
27	Selection of new promising forms from citrus hybrid and nucellar seedlings on the basis of genetic research and their propagation for production purposes	ATSU budget	The goal of the project was to prepare for distant hybridization to identify new promising forms from citrus hybrid and nucellar seedlings, make biomorphological and phenological observations on them for the mating process, implement the mating method according to combinations, mechanical and pomological study of the obtained hybrid fruits, distinguishing seeds from hybrid fruits, sowing and obtaining seedlings.	28320,0	2021-2023 ye.
26	"Implementation of activities promoting agricultural education"	The project "Modernization of the VET system of agriculture in Georgia" funded by the United Nations Development Program (UNDP) and the Swiss Development Agency (SDC)	Preparation of training material "Setting up a demo farm" (module/presentations); "Implementation of a series of trainings"	21 100,0	2023 ye
25	Landscape-ecological monitoring of Tskaltubo resort, vegetation preservation and rehabilitation measures	ATSU budget	The purpose of the study was to conduct landscape-ecological monitoring of the Tskaltubo resort, to study its climatic and soil conditions, the state of the diversity of vegetation, artistic-aesthetic assessment of the greenery of the facilities and the development of rehabilitation measures.	8250,0	2021-2023 ye.
24	Investigating the distribution prospects of introduced	ATSU budget	The aim was to study the biological and agricultural-	8250,0	2021-2023 ye.

	varieties of almond (Prunus amygdalus) in Georgia, taking into account agro-ecological factors.		technological features of the introduced varieties of almonds, with the aim of their further industrial distribution.		
23	Cultivation of some varieties of grapes with modern methods and technologies on yellow soils in Imereti region	ATSU budget	Selection of grape varieties for cultivation on yellow soil soils of Imereti region	8250,0	2021-2024 ye.
22	Selection of new promising forms from citrus hybrid and nucellar seedlings on the basis of genetic research and their propagation for production purposes	ATSU budget	Preparation of initial components for distant hybridization (hybrid and nucellar seedlings of lemon, orange, grapefruit) for mating process, making biomorphological and phenological observations on them; Mechanical and pomological study of obtained hybrid fruits; selection of seeds from hybrid fruits	132 800,0	2021-2023 ye
21	"Soil survey of the territory of the Faculty of Agriculture and arrangement of the scientific-collection plot",	ATSU budget	Soil survey of the area adjacent to the Faculty of Agriculture in order to arrange a demonstration plot on it	11 000,0	2021-2022 ye
20.	"Development and institutionalization of the certificate program for the greenhouse production of culinary herbs and common / specific vegetables"	USAID Agriculture Program"	Developing a specific certification program for greenhouse production and setting up a training base for the purpose of developing greenhouse production	45 000,0	2019 ye
19.	"Laboratory analyzes for the laurel culture sector"	USAID Agriculture Program, Branch of Citizens' Network for Foreign Affairs - CNFA Georgia	Laurel culture sector throughout Georgia. The project covers the following regions: 1.Imereti (municipalities of Samtredia, Vani, Terjoli and Tskaltubo); 2.Samegrelo (Abasha, Senak, Khobi, Zugdidi, Tsalenjikha, Chkhorotsku municipalities); 3. Adjara (Kobuleti, Khelvachauri, Keda municipalities); 4. Guria (Lanchkhuti, Ozurgeti, Chokhatauri municipalities); 5.Kakheti (Lagodekhi municipality). For each of the listed 17 municipalities, the following laboratory analyzes were performed:	10280 GEL	15.11.2011-24.12.2019 ye

			1.Physico-mechanical, agrochemical and entomological analysis of soil; 2. The level of essential oils in bay leaves; 3.Determination of harmful diseases in laurel leaves.		
18.	The project envisaged "sustainable tourism: entrepreneurship in rural areas and cultural heritage" throughout Georgia. Cooperation between Kyrgyzstan, Georgia and Norway in the field of education".	Norway	1) Increasing the mobility of students and employees between the three countries in order to exchange knowledge, competence and practical skills 2) Enhancing the knowledge of students and academic staff and raising their research potential in issues related to sustainable tourism, rural entrepreneurship and cultural heritage. 3) Promoting the exchange of learning methods and teaching literature for teaching sustainable tourism, rural entrepreneurship and cultural heritage 4) Promotion of education based on research and practice through cooperation between academic institutions and the private sector	5 995 300 kroner from the faculty 214 118 GEL + 82 485,0	2016-2024 ye
17.	Application of bioecological methods in citrus hybrid relatives and selection of promising forms from them	ATSU. Agrarian Faculty	Studying the bio-morphological features of citrus hybrid seedlings obtained as a result of distant hybridization under the conditions of Imereti against the background of the use of biological methods of agrotechnics and distinguishing promising, relatively frost-resistant forms as starting material for further selection work.	56 800.00	2017-2020 ye
16.	Processing of subtropical and other vegetable, agricultural raw materials	ATSU budget for carrying out scientific work; Faculty budget; Budget for research on doctoral topics	Development of a new technology for obtaining natural caffeine. Development of an express method for caffeine determination	8250 GEL	2016-2019 ye
15.	"Landscape-ecological assessment of the environment of the subtropical zone,	ATSU budget for carrying out scientific work; Faculty budget;	a) in the direction of landscape architecture: will study environmental rehabilitation measures based on the landscape-	9028,0 GEL	2017-2020 ye

	rehabilitation measures and tourism development opportunities;	Budget for research on doctoral topics	ecological condition and the peculiarities of the growth and development of young decorative plants in Western Georgia against the background of global warming, by developing relevant agro-technical measures; b) will study in the direction of tourism: the tourist potential of Imereti; Prospects of implementing the Norwegian experience in rural tourism development in Imereti.		
14.	Ways of improving agro-technologies of some cultures of the subtropical zone	ATSU budget for carrying out scientific work; Faculty budget; Budget for research on doctoral topics	To be studied: the issues of perfecting the agrotechnology of subtropical plants common in Georgia; Possibilities of expanding the area of distribution of subtropical crops in different ecological regions of Georgia; ways of rehabilitating some promising cultures; Prospects for growing annual and perennial crops;	annually1 485,0(D)x =4455,0 2870 ATSU x3= 8610,0 Total:1306 5	2017-2020 ye 7425,0 (D): 5= 14350,0 ATSU
13.	Processing of subtropical and non-vegetable agricultural raw materials	ATSU budget for carrying out scientific work; Faculty budget; Budget for research on doctoral topics	"Obtaining different types of tea products using traditional and non-traditional raw materials";	8250 GEL	2016-2019 ye
12.	Long-term trainings for practicing agronomists	USAID/REAP	The project is intended for the creation and implementation of theoretical and practical intensive courses for the practicing agronomists of Imereti, Samegrelo and Racha-Lechkhumi regions, taking into account the results of scientific research.	60 360.00	2017-2018 ye
11.	Georgian laurel and its export potential"	USAID/REAP	Georgian laurel and its export potential" The project is intended for researching the Georgian market in order to increase the export potential of Georgian laurel	8000,0	2016 ye
10.	"In order to improve and implement professional	Funded by the NGO PIN of	Grant project №1220, 21.10.2016	6000 ,0	2016 ye

	educational programs, the latest agro-technological methods tested and implemented abroad"	the Czech Republic			
9.	Monitoring the activities of sectoral cooperatives in the Imereti region.	Czech government. ATSU.	The work was performed within the framework of the Prague University project	7000	2015 ye
8.	Development and demonstration of agrotechnology for olives on the soils (Samegrelo, Imereti regions)	Shota Rustaveli National Science Foundation	Plantation of early olive varieties on the demonstration plot in accordance with the chemical properties of Samegrelo and Imereti soils; detection of olive diseases and pests and development of effective measures to combat them; Determination of effective ways of breeding olive seedlings; Selection of inter-row crops for young olives.	99 895	01.10.2015 - 31.03.2016 ye
7.	Improving the agro-ecological environment of the young hazelnut plantation on the wetland alluvial soils of Samegrelo in the training farm of Samegrelo-Nosiri	Akaki Tsereteli State University	Application of agro-ecological environment improvement technologies based on the study of soil-bioclimatic conditions in the young hazelnut plantation grown on the alluvial wetlands of the Samegrelo region.	16 000	2013 – 2014 ye
6.	In order to increase the quality and storage capacity, thermal treatment of wine materials and durdo with infrared radiant energy	Grant of Akaki Tsereteli State University N26	The parameters of wine storage in the case of using infrared rays were determined	10 000	2013 – 2014 ye
5.	"The problem of increasing the frost resistance of citrus and its solution using the method of distant hybridization".	Shota Rustaveli National Scientific Foundation	Grant № GNSF/ST 088-507	185230,0	2010– 2012 ye
4.	"Selecting a useful form for the maintenance and cultivation of noble laurel in a highly productive, mechanized way and transferring it to production"	National Science Foundation of Georgia	Grant # GNSF/ST 08/8-511	115440,0	2009-2012 ye
3.	Activation of public movement in the field of food safety in Imereti region	Eurasian Cooperation Fund	Grant №264 (GIO–0088)	24000«0	2011 ye
2.	Getting a "Mate" tea type product from alternative	Shota Rustaveli National	AR/2/10-150/11	112 245,0	2011 ye

	raw materials	Science Foundation			
1.	Increasing the fertility of the soils of Upper Abkhazia and demonstrating the technology of planting hazelnut plantations on them	Shota Rustaveli National Science Foundation	Scientific study of the influence of intermediate crops on the low-fertility soils of Samegrelo and Imereti, in order to cultivate hazelnut culture on them, development and demonstration of relevant technologies. Grant No. GNSF/ST 088-507	134 614	01.03.2009-28.02.2012 ye

Appendix 2

Currently, the number of ongoing grant projects is – 3

N	Name	Foundation N	Reason of research	Budget GEL	Period
3	Revealing the tourism-recreational resources of Georgia with the perspectives of sustainable tourism and tourism development in rural areas.	Norway	Studying the current state of tourist-recreational resources involved in the tourism industry and determining the marginal scope of exploitation, as well as revealing the still unexploited potential with the perspective of tourism development in rural areas. Enhancing the knowledge of students and academic staff and raising their research potential in issues related to sustainable tourism, rural entrepreneurship and cultural heritage	82 485,0	2020-2024 ye
2	"Using selective methods and integrated management of new technologies, obtaining new forms of citrus with improved agricultural characteristics and distinguishing them for further selective work"	ATSU budget	The aim of the project is to distinguish the improved agricultural traits with the use of selection methods and the integrated management of new technologies as the starting material for further selection work.	132 800,0	2023-2028 ye
1	"Consultancy services for evaluation of extension systems at the national level and development of mechanisms/recommendations for system development"	The project "Modernization of the VET system of agriculture in Georgia" funded by the United	Fully studying the 10-year extension practice of Georgia, studying the existing extension strategies and relevant action plans, and getting to know the international extension models;	12 700,0	2023-2024 ye

		Nations Development Program (UNDP) and the Swiss Development Agency (SDC)			

Appendix 3

Grant projects submitted by the faculty during the reporting period, which could not be financed

N	Name	Foundation N	Reason of research	Budget GEL	Period
19	Research on the process of making black tea with improved technological and quality indicators from Georgian tea raw materials	Shota Rustaveli National Science Foundation	Obtaining improved quality black tea using new technological parameters	159850,0	2022 ye
18.	Creation and study of initial material for the selection of laurel in order to breed highly productive varieties	Shota Rustaveli National Science Foundation	The main goal of the project is in one place - in the scientific-research base of Akaki Tsereteli State University (Kutaisi, Georgia), which is located in In the outskirts of Kutaisi, in the municipality of Mukhiani, a collection of initial material for the selection of laurel should be created. Through the introduction, the collection will gather the types, varieties and forms of laurel in different countries of the world and first of all in Georgia. Based on the results of the study, the breeders will be able to purposefully select the initial material to solve a specific task, that is, to create new, highly productive varieties of laurel with predetermined economic indicators. FR-19-12496	209 915.00	2019 ye
17.	Creation and maintenance of demonstration plots in Georgia Food and agriculture Organization of the Inited Nations	Food and Agriculture Organization of the United Nations (FAO) http://www.fao.org/unfao/procurement/general-information/en/	In the regions of Georgia - Racha-Lechkhumi and Kvemo Svaneti and Shida Kartli, arrangement of demonstration plots, cultivation of culture appropriate for the region and development and implementation of its agro-technologies for 2 years.	25 000,0	2019/FEGEO/FEGEO/102490

16.	Cultivation of vegetable raw materials by aquaponics	Shota Rustaveli National Science Foundation	Master's study-research projects - we had to study the basic principles of aquaponics, there would be a comparison between the growth and development of plants (lettuce, spinach) grown in a conventional greenhouse and in open ground. Observations on the stages of plant development and yield.	6000.00 GEL	2018 ye
15.	Creating a collection of initial material for laurel selection with predetermined economic indicators In order to obtain new, highly productive varieties of laurel	Shota Rustaveli National Science Foundation	The main goal of the project is in one place - in the scientific-research base of Akaki Tsereteli State University (Kutaisi, Georgia), which is located in In the suburbs of Kutaisi, in the Mukhiani municipality, a collection of initial material for the selection of laurel should be created. Through the introduction, the collection will gather the species, varieties and forms of laurel in different countries of the world and first of all in Georgia. The introduced material will be studied in every way, first of all on agricultural indicators. Based on the results of the study, the breeders will be able to purposefully select the initial material to solve a specific task, that is, to create new, highly productive varieties of laurel with predetermined economic indicators. FR-18-1551	213215.00	2018 ye
14.	"Study of agro-ecological conditions of "Chandler" American walnut on the soils of Imereti and Samegrelo"	Shota Rustaveli National Science Foundation	Cultivation of "Chandler" variety of walnuts on low-fertility, sandy soils spread in Imereti and Samegrelo; its care – development of agro-ecological technologies of cultivation; Improving soil fertility.	200 081.00 (removed due to technical error)	2017-2019 ye
13.	"Development of lemon sorghum agro-technology in the conditions of Western Georgia" (Imereti, Samegrelo)	Shota Rustaveli National Science Foundation	Cultivation of lemon sorghum on demonstration plots in Imereti and Samegrelo, study of their acclimatization and adaptation conditions, determination of effective ways of breeding lemon sorghum seedlings, their agro-production zoning based on research.	130 220. 00 (removed due to technical error)	2017-2019 ye
12.	"New polyfunctional adaptogen (creation, research and technology development)"	Shota Rustaveli National Science Foundation	Creation of a plant adaptogen of high biological value from local raw materials and optimization of the recipe composition.	210 000.00 (removed due to technical error)	2017-2020 ye

11.	Creation and study of the starting material for the selection of laurel in order to breed high-yielding varieties	Shota Rustaveli National Science Foundation	The main goal of the project is in one place - in the scientific-research base of Akaki Tsereteli State University (Kutaisi, Georgia), which is located in In the outskirts of Kutaisi, in the municipality of Mukhiani, a collection of initial material for the selection of laurel should be created. FR2017/ FR17_48	188 915 GEL	2017-2020 ye
10.	Intensification of production processes of functional supplements of sugarcane with infrared energy	Shota Rustaveli National Science Foundation	Evaluation score 27, 67	68 000	2016 ye
9.	Improvement of agrolandscape properties from the influence of weapons of mass destruction	Shota Rustaveli National Science Foundation	Study of the soil-bioclimatic conditions of complex agro-landscapes in the regions affected by weapon impacts; Determining the level of damage with expected change. Determination of the dynamics of changes in microclimate, physico-chemical properties; Development of new agroecological technologies for cultivation of trial culture.	70 000	2015 ye
8.	Increasing the potential fertility of the soil for growing a young vineyard plantation in the agro-ecological conditions of Tskaltubo district	Foundation of the Patriarchate of Georgia	The goal of the project was the reclamation of low-fertility soils freed from tea culture and cultivation of vine culture on them.	28080	2014 ye
7.	Creation of a small cattle farm and milk production in Imereti district (Vani) on the basis of green, ecologically clean and high-quality food using the hydroponic method	International Charity Fund of Catholicos-Patriarch Ilia II of All Georgia 2014 competition of scientific grants	The goal of the project was to create a small cattle farm and milk production in Imereti district (Vani) on the basis of green, ecologically clean and high-quality food using the hydroponic method.	Total project budget (GEL): 29 450 between them: Amount requested from the fund (GEL): 24,950; Co-financing (GEL): 4500	2014 ye
6.	Selection of agro-technologies for cultivation of shindi plantation in Tskaltubo	Foundation of the Patriarchate	As a result of scientific research, to select agro-technology for growing a plantation of Shindi culture on yellow soil in the	28 095 GEL	2014 ye

	district	of Georgia	village of Gumbra, Tskaltubo district.		
5.	Development and improvement of the generative propagation method for laurel Laurus nobilis L., the first selective Georgian high-yielding variety worldwide, to accelerate its introduction into production.	International Charity Fund of Catholicos-Patriarch Ilia II of All Georgia 2014 competition of scientific grants	The aim of the research is to replace the noble laurel species-population plants grown in industrial plantations and homesteads with highly productive selective varieties in a short period of time, which will significantly increase the level of production profitability. - FR/237/10-102/14;	20 000 GEL	2014 – 2016 ye
4.	Creation and study of the laurel - Laurus - world gene pool collection, for the selection of highly productive varieties	Shota Rustaveli National Science Foundation	The introduction of the taxa of the genus Dafni, from different countries of the world and also from the internal regions of the Republic of Georgia, should be carried out. Based on the introduced material, a collection of the world laurel gene pool will be created in one place. At the same time, through a comprehensive study of the type of the collection, it should be determined what potential of economic indicators may exist in this or that direction of selection, and what level of highly productive variety will be possible to breed according to the specific direction. FR/535/10-102/13;	134 200 GEL	2013-2015 ye
3.	Development of the generative propagation method for the highly productive variety of laurel - Laurus nobilis - perfection.	ASU - intra-university grant competition	The goal of the research provided by the project is to replace the noble laurel species-population plants grown in the industrial plantations and homesteads of subtropical agriculture of Georgia with highly productive selective varieties in the shortest possible time.	18 000 GEL	2013 – 2015 ye
2.	- "Creation of the laurel gene pool collection, fundamental study and selection of the forms with the highest economic indicators, in order to produce highly productive varieties in the future".	Shota Rustaveli National Science Foundation	FR/535/10-102/12;	98 100,0	2012 ye
1	Improving the technology of primary processing of tobacco under the conditions of small farming	Shota Rustaveli National Science Foundation		122 000	2011 ye

Information/materials on research conducted at the faculty in the last period are reflected in various scientific periodicals, referable publications (magazines), collections of works of international scientific conferences, internet journals, monographs and methods. Manuals are edited and published by the academic staff of the faculty.

During the last years, 198 titles of scientific literature (manuals, monographs and methodological references) have been published at the Agrarian Faculty of the Ukrainian Academy of Sciences, according to research directions.

The academic staff of the faculty has published scientific articles in the top rated journals of Georgia and other countries (including impact factors). During the last years, a total of 464 scientific articles have been published, in which the results of scientific researches carried out at the faculty are reflected. (Appendix 4)

In order to improve the scientific-research base, material-technical and infrastructure of the Faculty of Agriculture, the environment has been adjusted and laboratory equipment has been purchased.

4. Situational analysis (SWOT)

1. Strengths / External Supporting Circumstances

1.1 The strengths of the research activities of the Faculty of Agriculture are the researches aimed at the development of the specific field of agriculture, subtropical farming, the scientific qualifications of the academic staff (scientists - researchers) working in this direction and the uniqueness of the research material (subtropical raw materials);

1.2 Specificity of conducted studies and research object;

1.3 The existing practice of joint participation in the scientific-research activities of the faculty's academic staff, bachelors, masters and doctoral students;

1.4 A large number of projects presented and financed by faculty employees for competition in scientific funds;

1.5 high involvement of academic staff in international scientific-practical conferences;

1.6 High rate of publication of results of academic staff;

1.7 integration of research results into the educational process, creation of appropriate educational material;

1.8 mutual cooperation with educational and research institutions, operating industries and regional and international organizations;

1.9 University approaches to the development of science and the positive attitude of the management to support the implementation of scientific-research projects;

1.10 The agricultural faculty publishes twice a year (funded by the Imereti Agro-Ecological Association) the sectoral refereed scientific magazine "AgroNEWS";

1.11 The faculty's research activity is strengthened by other external circumstances, namely: state priorities (agriculture, tourism); State programs aimed at the development of agriculture: "Produce in Georgia"; "Tea rehabilitation program" and other state programs, the implementation of which is aimed

at increasing the production of agricultural products and improving the socio-economic condition of the population;

1.12 The faculty has a scientific-research center for agrarian directions and training-research farms (Nosiri, Mukhiani)

1.13 Practice of participation in joint scientific grants with foreign scientific institutions (Norway, Czech Republic, Turkey, Slovakia)

1.14 The results of the research can be used both in the educational process and by all persons and structures interested in the development of the fields corresponding to the research profile - tea, tobacco, essential oils, citrus and other subtropical and technical crops; To meet the needs of the consumer market and increase the material income of the rural population (commercialization of research results).

2. Weaknesses / Challenges

2.1. lack of academic staff with knowledge of foreign languages (English, German);

2.2. Relatively low indicators of the citation index of works;

2.3. lack of funding sources for scientific research;

2.4. Lack of laboratory infrastructure for scientific research

2.5. Less interest of employers in implementing the results of scientific research.

5. Existing and potential partners

Public sector - Academy of Agricultural Sciences, Imereti, Racha-Lechkhumi and Samegrelo regions, consulting centers of the Ministry of Agriculture, Tskaltubo Consulting Center of the Ministry of Agriculture, Ministry of Agriculture of Adjara, Imereti, Racha-Lechkhumi, Kvemo Svaneti and Guria Regional Chamber of Commerce and Industry , LSI-Georgian National Administration of Tourism, LSI Protected Areas Agency. LLC - "Business Incubator"

Universities/Institutes - Shota Rustaveli State University of Batumi, Technical University of Georgia, Southeastern University of Norway (HSN), Rafiel Dvali Institute of Machine Mechanics, Agricultural University of Georgia, Chorokhi and Karadeniz University of Turkey, Ushak University (Turkey), Western University of Timisoara (Romania), Agricultural University of Hungary "MATE", Scientific Research Institute of Bratislava, Slovakia.

Private sector - Sh.P.S. "Herbia"; Ltd. "Adina"; Ltd. "Training Farm of Public College of Agribusiness and Agroecology"; "Association of Nut Producers", LLC "Agrigeorgia"; "GREENVILLAGE" LLC; "Mechanizator" LLC; "Tractorservice" LLC, "Tegeta Motors" LLC; "Agroservice" LLC; AAP "St. Kutaisi Botanical Garden"; AAP "Student-Youth Park"; LLC "TCF GEORGIA"; "GEONUT" LLC; St. Kutaisi Decorative Plant Nursery "Nemo Kakushadze"; LLC "FloraWestland"; ; "Geo-Agro-Product" LLC; "Thernali+" LLC; LLC "Uniform"; LLC "Microbiologist"; Ltd. "Bagrat 1003" (hotel complex); Ltd. "Wonderland" (travel agency); Ltd. Kutaisi Tourism and Excursions Bureau; Ind. entrepreneur Melano Bochorishvili (tourist agency); Hotel "Monopol"; Ltd. Edelweiss - Hotel Prometheus LLC, "Goodtravel", Hotel "Tskaltubo Plaza", Department of Tourism and Resorts of the Autonomous Republic of Adjara, LLC. Kolkheti, LLC "Tobe"; LLC "Agrosfero" LLC "Noblex"

International organizations- USAID /REAP, PIN,
USAID Agriculture Program,
"Erasm+" Institutional Development Fund

6. Human Resources

The formation of a research profile and its implementation at the Faculty of Agriculture is ensured by qualified academics, support staff, invited specialists and students.

Total: 75

– Emeritus Professor 7
– Professor 5
– Associate Professor 33
- Assistant Professor 3
- Teacher invited by contract 7
- Laboratory assistant 6
- Specialist 4
- Doctoral student 10

7. Material resources

The Faculty of Agriculture is provided with the necessary material and technical base for carrying out research: relevant laboratories; Test plots, objects of contractual practice, infrastructure of organizations with which agreements have been signed on mutual cooperation (Appendix 5).

8. Development goals

The objectives of the development of the research activities of the Faculty of Agriculture are related to the specifics of the research and the development priorities of the country. The faculty, as a continuation of the traditions of the former State University of Subtropical Agriculture of Georgia, is mainly focused on the development of landscape architecture and solving related issues through the study and use of the specific branch of Georgia - subtropical agriculture, as well as tourism, agribusiness and decorative plants.

Taking into account the above, the priority directions of the faculty's activities are:

• improvement of the research environment - appropriate infrastructure (laboratories, equipment, provision of field work, etc.);

• Increasing research income - in the form of local and/or international grants or direct orders, conferences, etc.;

• recognition of research output - publications in publications with a high impact factor, increasing the citation index, patents, etc.;

• participation of students in research activities, training of young research personnel;

• planning/implementation of joint research and commercial projects;

• Development of consulting and certification services by using and strengthening the capabilities of existing laboratories at the departments.

The research profile of the faculty for the coming period will be:

Subject 1: selection of subtropical and other agricultural crops of Georgia (taking into account soil-climatic and other factors), plant protection, care-growing, their mechanization by providing technical services for the development of agribusiness and development of plant raw material storage-processing technologies.

Subject 2: Determining the features of growth and development of young ornamental plants in Georgia, landscape-ecological evaluation of the environment, development of rehabilitation measures and identification of tourist-recreational resources of Georgia with perspectives of sustainable tourism and tourism development in rural areas.

Subject 3: Obtaining and distinguishing new forms of citrus fruits with improved agricultural characteristics by the use of selection methods and integrated management of new technologies for further selection work.

The research profile of the faculty is the result of the integration of the below-mentioned studies to be performed in the structural units of the faculty in the period provided for by the strategic plan (2025-2031), taking into account the topics of the research profile of the faculty.

N	Research Unit	Research Subtopics	Human and material resources
1	Scientific-Research Center of Agrarian Directions	"Using selective methods and integrated management of new technologies, obtaining new forms of citrus with improved agricultural characteristics and distinguishing them for further selective work"	Professor 1 Associate Professor1 emeritus 2 Technical staff 3 Demonstration plot of citrus plants of the Faculty of Agriculture
2	Department of Agronomic Sciences	Cultivation of some varieties of grapes with modern methods and technologies on yellow soils in Imereti region Prospects for the development of nut culture under excessive moisture soils	Professor: 2 Associate Professor: 7 Laboratory assistant: 2 Invited specialist: 1 students Material resource: material and technical base of the department (see Appendix 1)
3	Department of Subtropical Crops	Development of improved agrotechnology for subtropical crops.	Professor: 1, Associate Professor: 3, Laboratory

			Assistant: 1 students Material resource (see Appendix 1)
4	Of tourism and landscape architecture	Determining the characteristics of the growth and development of young decorative plants in Georgia, landscape-ecological evaluation of the environment, development of rehabilitation measures and identification of touristic and recreational resources of Georgia with the perspectives of sustainable tourism and tourism development in rural areas. Revealing the tourism-recreational resources of Georgia with the perspectives of sustainable tourism and tourism development in rural areas.	Associate Professor: 10, Assistant professor: 1 Laboratory assistant: 1 Specialist: 1 Operator: 1 Invited specialist: 3 students material resource (see Appendix 1)
5	Department of Agricultural Engineering	Improvement of operational properties of energy-saving machine technologies and their maintenance means in agriculture: 1.1. Development of machine technologies for maintenance and harvesting of agricultural crops in conditions of agricultural diversity. 1.2. Research of the efficiency indicators of transport services in the processes of maintenance and harvesting of agricultural crops.	Emeritus: 1 Associate professor: 6 laboratory assistants: 3 Invited specialist: 2 Operator: 1 students material resource (Appendix 1)
6	Department of Subtropical Crops Product Technology	Determination of new technological parameters of storage and processing of agricultural raw materials, development of methods for determining the quality of finished products and expertise.	Professor: 2 Associate Professor: 6 Assistant professor: 1 Laboratory assistant: 3 Operator: 1 students Material resource: material and technical base of the department (see Appendix 1)

The results of the scientific research carried out according to the presented topics will be evaluated taking into account the visibility at the national and international level.

9. Internationalization perspectives

The faculty's academic staff participates in international projects:

1. The university is registered in the "USAID Agriculture Program" cooperation base. During the year, academic staff are gradually involved in short-term grant projects, taking into account the requirements of the program.
2. "Sustainable tourism: entrepreneurship in rural areas and heritage. Cooperation in the field of education between Georgia, Kyrgyzstan and Norway" - Norway.
3. Within the framework of "Erasmus+" project
4. The grant project "Optimization of the aromatic substances of marketable Georgian black tea obtained with new technological parameters" in collaboration with Slovakia has been submitted for financing.

In order to work on the global problems in the field, the scientific-research activity will be activated through the involvement of leading specialists in the field of foreign educational and scientific universities and institutes, both in the direction of processing the complex of methodological measures of reporting-experimental studies, and in the direction of planning-realization of experiments;

In order to internationalize the academic staff, it is planned to increase the level of knowledge of a foreign language (using intensive English language courses) and to participate in exchange programs with various European higher education institutions (depending on the profile).

Academic staff will actively participate in international conferences, in various international projects ("Erasm+" institutional development project, etc.). If possible, he will do an internship abroad.

The academic staff of the faculty is involved in international projects promoting the development of tourism and agricultural sectors within the scope of their competence and will continue to work in this direction. Employees and students have already participated in the mobility and internship program within the framework of the international project, and further similar activities are planned. (Appendix 6)

In terms of internationalization, the work within the framework of the ERASMUS + program in terms of credit mobility should be strengthened, which will increase the international mobility of young researchers and academic staff and participation in other exchange research projects.

Appendix 4

Akaki Tsereteli State University

Papers published by the academic staff of the Faculty of Agriculture in peer-reviewed publications (2015-2024)

1. JANA SADESKA, FILIP DIMITROV,EMIL KOLEK, OTARI SESIKASHVILI, Ketevan Kintsurashvili, TOMAS KUCHTA. Aroma-active compounds of Georgian black tea infusions as determined by gas chromatography-olfactometry. Journal of Food and Nutrition Research\ (ISSN 1336-8672). Vol.62. No.2. 2023. pg.111-117
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Appendix 4 in tabular form

№	Author(s).	Title of the article	Name of scientific journal	Tom	Series №	Year	Pages
22	JANA SADESKA FILIP DIMITROV EMIL KOLEK OTARI SESIKASHVILI Ketevan Kintsurashvili TOMAS KUCHTA	Aroma-active compounds of Georgian black tea infusions as determined by gas chromatography-olfactometry	Journal of Food and Nutrition Research (ISSN 1336-8672)	Vol. 62	No.2	2023	pp.111-117
21	Gokturk, T., Chachkhiani Anasashvili, N., Guguli Dumbadze.	Chemical compositions and larvicidal effectiveness of Rhododendron ponticum essential oil on Neodiprion certifier larvae. Journal of Asia-Pacific Entomology, V 26, Iss. 4,2023, ISSN 1226-8615	https://doi.org/10.1016/j.aspen.2023.102117 (https://www.sciencedirect.com/science/article/pii/S122686152300081X			**2023**	337-348
20	Mamuladze M., Tavberidze S.,	Dinamic processes of a hand-held motorized mower during the start of the mowing process.	INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR). ISSN 2320-5407. IMPACTFACTOR: 7.08, CROSSREF DOL 10.21474/IJAROL, JUN 2023			2023	72-78
19	Dumbadze, G., Lortkipanidze, R., Chachkhiani-Anasashvili, N., Alasania, N., Jgenti, L.	RESEARCH RESULTS ON BIOLOGICAL ACTIVITY OF NEW GEORGIAN PLANT GROWTH BIOSTIMULANTS - BACTOFERT-L BLATT, BACTOFERT-L BODEN, AND BACTOFERT -L Si	International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM,			**2022**	pp. 371-378.
18	Ekaterina Gubeladze	Apical growth of some woody plants common in the territory of the Brotseula public school in the village of Zeda Meskheti	International scientific and practical journal – XVIII global science and innovations. Astana, Kazakhstan	Vol. I	ISSN 2664-2271	2022	16-19
17	Maia Diakonidze	TOURISM ECONOMIC POLICY,	The New Digital Era: Other Emerging Risks	Volume	ISSN: 1569-	2022	13-20 p.

		COVID-19 RESTRICTIONS, AND ESTIMATED ECONOMIC IMPACT ON THE INDUSTRY	and Opportunities Contemporary Studies in Economic and Financial Analysis	109B	3759/ doi:10.1108/S1569-3759202200109B002		
16	Maia Diakonidze Ercan Ozen	Financial Analysis of the Tourism Sector During Pandemic: The Case Study	Young Economists Journal / Revista Tinerilor Economisti	Vol. 18 Issue 37		2021	p24-29. 6p.
15	Maia Diakonidze	Journal of Corporate Governance, Insurance, and Risk Management (JCGIRM) 2021,	Tourism Insurance Market, Risks and Prospects: The Case Study	Volume 8, Series 1	ISSN: 2757-0983	2021	75-83
14	Maia Diakonidze	Black Sea Scientific Journal Of Academic Research	Development of Tourism Services and Employment Perspectives: A Case Study of Georgia	VOLUME 54 ISSUE 03	ISSN: 1987-6521; E-ISSN:2346-7541	2020	46-56
13	R. Kopaliani, N. Jincharadze, Sh. Kapanadze	Rehabilitation of unkempt tea plantations and development of subsequent agricultural technology using the example of the Imereti region	INTERNATIONAL ACADEMY JOURNAL WEB of SCHOLAR. DOI: https://doi.org/10.31435/rsglobal_wos . ISSN 2518-167X	7(37)		, July2019	pg. 7-13
12	Gogishvili Nana, Kintsurashvili Ketevan	Removing Astringency of Subtropical Persimmon (Diospyros kaki L) by means of Freezing for the Intention of Conservation	European Sciences review. Scientifc journal . Vienna. Austria	№ 3–4,		March–April 2019	pg.85-87
11	Irma Dikhaminjia, Eliso Gvelesiani.	Innovative teaching metods in modern higher education.	Scientific Letters of Academic Society of Michael Baludansky. Slovakia			2019	pp. 9-12
10	Sharabidze N. R.	STUDYING THE PROSPECTS FOR THE DEVELOPMENT OF ETHNO	EUROPEAN SCIENCE.	(46).		2019 ,	т.11-14.

		TOURISM IN THE REGIONS OF GEORGIA.					
9	Maia Diakonidze	Development of Tourism Services and Employment Perspectives: The Case of Georgia.... pp..	European Research Studies Journal	Volume XX	Issue3, II	2019	132-148
8	Phridon GOGIASHVILI*, Jumber CHOGOVADZE, Gocha LEKVEISHVILI, David KBILASHVILI, Besik SIRBILADZE, Vazha DOGRASHVILI.	OPTIMIZING THE TIME COSTS OF PASSENGER TRANSPORT OF PEOPLE WITH DISABILITIES. TRANSPORT PROBLEM.	Silesian University of Technology,. Poland. .			2019	http://transportproblems.polsl.pl. 10
7	Pridon Gogiashvili, Gocha Lekveishvili, David Kbilashvili, Jumber Chogovadze, Vazha Dograshvili-A	logistic service model for disabled persons in mobility by tovn-service buses..	Transport problems DOI: 10.21307. House of Silesian University of Technology.9.	volume 13	Issue 1.	2019	
6	R.Kopaliani, Sh.Kapanadze, G.Gecadze.	Conneqtion Between The Laurel Essential Oil Content And The Plant Generative Reproduqtion Features	Agrocultural Sciences Academic Publishing House of the Agricultural University/ Plovdiv	Volume 9	Issue 21	2018.	, pg.27-35
5	R. Kopaliani, Sh. Kapanadze	Laurel seedling growth and development dependence on seeding time in West Georgia conditions .	International Academy Journal Web of scholar. ISSN 2518-167X. DOI:https://doi.org/10.31435/rsglobal_wos	Vol. 1	10(28)	2018	pg. 8-13.
4	Kipiani N., Kopaliani R.	Bio-ekological methods (Sideration and Mulching) obtained in hybrid seedlings of citrus. ..	International Journal of Multidisciplinary Research and Development. Peer Reviewed Journal, Refereed Journal, Indexed Journal. E-ISSN: 2349-4182, P-ISSN: 2349-5979, CODEN: IJMRN, Impact Factor: RJIF 5.72.	Volume 5	Issue 12	Dec 2018	pg. 104-106.
3	Kintsurashvili Ketevan, Gogishvili Nana	DEFINE REMOVING MECHANISM OF TART FLAVOR IN	European Journal of Technical and Natural Sciences. Vienna. Austria ISSN 2414-2352,	№ 3		2018	Pg. 11-16

		SUBTROPICAL PERSIMMON FRUITS NEEDED FOR PRESERVATION. Австрийскийжурнал технических и естественных наук...	http://ppublishing.org/ru/journals/62/?utm_source=email&utm_medium=all&utm_campaign=15.03				
2	Kintsurashvili K., Tsetskhladze M., Ardzenadze M., Chikovani D.	**OPTIMIZATION OF THE TECHNOLOGICAL PROCESS FOR THE PRODUCTION OF CONCENTRATED MANDARNINE JUICE."**	INTERNATIONAL ACADEMY JOURNAL WEB of SCHOLAR. *ISSN 2518-167X* ,))..	*Vol.1*	5(23)	2018	Pg.85-89
1	Sharabidze N. R.	FEATURES AND PROSPECTS FOR THE DEVELOPMENT OF YOUTH TOURS..	«INTERNATIONAL SCIENTIFIC REVIEW OF THE PROBLEMS AND PROSPECTS OF MODERN SCIENCE AND EDUCATION. XLI. Boston. USA			2018	ст. 80-82.
25	Kapanadze Sh.Yu., Kopaliani R.Sh.	Research of Laurus nobilis for high oil content in Greece.	XIII International Scientific and Practical Conference "Science and Education in the Modern World: Challenges of the 21st Century". Collection of scientific articles. Astana, Kazakhstan,			2023 May	29-33
24	Mikaberidze M.	Calculation of a drying machine for sugar-containing root and tuber crop raw materials operating by the electrophysical method.	Peer-reviewed electronic periodical scientific journal "SCI-ARTICLE.RU" https://sci-article.ru/stat.php?i=1675887785		115	2023	22-30
23	*Roza Lortkipanidze[1*], Giorgi Iakobashvili[2], Nunu Chachkhiani-Anasashvili[3], Rusudan Tskipurishvili*	Carbon Emission and Urban Climate in Georgia.	INTERNATIONAL CONGRESS ON ENGINEERING AND LIFE SCIENCE 20-22 SEPTEMBER 2023 . TRABZON			2023	
22	Gogishvili N. J	Characteristics of the best industrial varieties of Georgian figs and their storage	International scientific and practical journal "Eurasian Union of Scientists", Russia,	5 (86)/ 1		2021	4-8

			Moscow				
21	Mikaberidze M.	For the production of dry culinary additives from wild fruit and berry raw materials	International scientific journal "Innovative approaches in industries and areas». *URL: https://www.inf16.ru/vypusk-6-iyun-2021*		№6	2021	
20	Mikaberidze M.	Production of low-calorie, dietary and biologically active products intended for patients with diabetes mellitus based on citrus secondary material resources	International scientific journal "Innovative approaches in industries and areas" Catalog of articles (April, 2021) https://www.inf16.ru/index.php/cb-profile/malkhazi			2021	
19	Mikaberidze M., Aplakov V., Khutsidze T.	Improving the production of confectionery additives using the electrophysical method from a mixture of wild fruit and berry raw materials.	II International Scientific and Practical Conference, SYSTEM ANALYSIS AND SYNTHESIS OF MODELS OF SCIENTIFIC DEVELOPMENT OF SOCIETY, organizer - ICNP "NEW SCIENCE", November 15, 2021, www.sciencen.org, **https://ami.im/sbornik/MNPK-358.pdf**			2021	pg.98-101.
18	Mikaberidze M.	Intensification of the production of dry culinary additives from wild fruits.	Peer-reviewed electronic periodical scientific journal "SCI-ARTICLE.RU" #94 (June) 2021.https://sci-article.ru/gryps.php?i=selskoe_hozyaystvo. https://sci-article.ru/verxx.php?i=57			2021	pg. 152-158
17	M.Tevzadze, Z.Chkhartishvili.	Study of naturaland resonant torsional oscillations in the transmission of the frontwheel-drive car.	International Federation for the Promotion of Mechanism and Machine science. International scientific journal “PROBLEMS OF MECHANICS”.		№1(82)	2021	59-66
16	Izolda Khasaia, Nana Kvirtia	Impact of Pandemic on the Hotel Business in Imereti (Georgia).	International Scientific Journal World Science. doi: 10.31435/rsglobal_ws/30032021/7512	3	64	2021	51-56
15	Kutsia M.	Pathogenicity and biological features of fungi Sclerotium to ornamental plants	Integration of Education, Science and Business in Modern Environment: Winter debates: 3rd International Scientific and Practical Internet		ISBN 978-617-95218-3-6	2022	313-315

			Conference, February 3-4.				
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13	Sharabidze N. R.	OPPORTUNITIES AND PROSPECTS FOR RESTORING KUTAISI TOURISM IN POST-COVID-19 CONDITIONS.	INTERNATIONAL SCIENTIFIC REVIEW OF PROBLEMS AND PROSPECTS OF MODERN SCIENCE AND EDUCATION / COLLECTION OF SCIENTIFIC ARTICLES. LXXVI INTERNATIONAL CORRESPONDENCE SCIENTIFIC AND PRACTICAL CONFERENCE			Boston. 2020.	p. 39-42
12	Kutsia M.	Landscape-ecological monitoring of botanical garden of Kutaisi in Western Georgia.	Integration of Education, Science and Business in Modern Environment: Summer Debates: abstracts of the 2nd International Scientific and Practical Internet Conference– Dnipro, August 17-18.		ISBN 978-617-95218-3-6	2020	260-263
11	Eliso Gvelesiani	Digital Technologies and 4-th Industrial Revolution in Business Development..	XIV International Scientific and Practical Conference Social and Economic Aspects of Education in Society. Warsaw, Poland.			2019	pg. 6-10.
10	Gogishvili Nana, Kintsurashvili Ketevan	Removing Astringency of Subtropical Persimmon (Diospyros kaki L) by means of Freezing for the Intention of Conservation.	European Sciences review. Scientifc journal . Vienna. Austria	№ 3–4	March –April	2019	pg.85-87
9	Kintsurashvili Ketevan, Gogishvili Nana	DEFINE REMOVING MECHANISM OF TART FLAVOR IN SUBTROPICAL PERSIMMON FRUITS NEEDED FOR PRESERVATION.	European Journal of Technical and Natural Sciences. Vienna. Austria	№ 3		2018.	Pg. 11-16
8	Kintsurashvili K. Gogishvili N	“DEFINE REMOVING MECHANUSM OF	European Journal of Technical and Natural Sciences.	ISSN 2414 –	N3	2018	11-16

		TART FLAVOR IN SUBTROPIKAL PERSIMMON FRUITS NEEDIED FOR PRESERVATION"	Premier publishing. Vienna, Austria	2352			
7	Kintsurashvili K., Tsetskhladze M., Ardzenadze M., Chikovani D	OPTIMIZATION OF THE TECHNOLOGICAL PROCESS FOR PRODUCING CONCENTRATED MANDARNINE JUICE	INTERNATIONAL ACADEMY JOURNAL WEB of SCHOLAR *ISSN 2518-167X*	*Vol.1* ,	5(23)	2018	85-89
6	Kintsurashvili K.M., Gogishvili N.J.,	On the issue of reducing losses during transportation of subtropical persimmon fruits	International scientific conference "Science, Technology and innovative technologies in the era of power and happiness", Ashgabat	Conference materials		2017	pg.606-608
5	Kintsurashvili K. Melkadze R.	The Phenolic complex and antioxidant activity of Caucasian Blakberry (Rubus caucasicus L) leaves	Cambridge Journal of Education and Science, England Impact-factor 5,275	V.II	#1	2016 January-Iune,	150-155
4	Kintsurashvili K. Melkadze R. Dolidze P	Method for producing caffeinr from tea and express method of its testing.	International Journal of Applied Research. (ISRA) Impact Factor: 5,23.	ISSN Print 2394-7500	ISSN Online 2394-5869	2016	822–824
3	John Goldwater, Kintsurashvili K. Melkadze R.	" Antioxidant activity of Caucasian Blackberry (Rubus caucasicus L.) leaves"	Journal of Education and Science Melbourne. Australia	V.I		2016	329–334
2	Ketevan Kintsurashvili Revaz Melkadze	,"Adaptable properties of bioactive "Grail"	. International Journal of Advanced Multidisciplinary Research (IJAMR) [Publication Impact Factor (PIF) of 1.015. for the year 2014. Powerd by Internatiolnal Institute of Organized Research (12OR)	2(3)	XX-XX	2015	275–279
1	Melkadze R. Kintsurashvili K	Radioprotective properties of bioactive additive " Grail".	East West" Association for Advanced Studies and Higher Education. GmbH Vienna, Austria			2014	228–237

Appendix 5

Agrarian Fakulti

Material-technical base according to departments

1. Department of Agronomic Sciences

The material and technical base necessary for carrying out researches are the laboratories of the department: 1. Laboratory of soil science, melioration and agroecological monitoring 2. Laboratory of agrochemistry and farming and 3. Laboratory of plant protection.

The following devices are placed in the laboratories: water filter, hood, PH meter, photoelectrocolorimeter, centrifuge. With the equipment and conditions in the laboratory, it is possible to carry out the following tasks necessary for research: morphological description of the soil section, taking samples for soil research, conducting physical and mechanical analyses. In the samples, we can determine the mechanical composition, porosity, specific and volumetric weight, water conductivity, water capacity, structure, plasticity, humus with the thiurin method (with phenylanthralinic acid, diphenylamine), with a PH-potentiometer (PH meter) in water and kalichlor suspension, exchangeable and hydrolytic acidity dai Kukhara by Capen's method. There are utensils in the laboratories: iron balls, porcelain jars, measuring flasks, Erlenmeyer flasks, titration burettes, aluminum and glass beakers.

2. Department of Subtropical Crops

The libraries of Akaki Tsereteli State University, the computer base of the Faculty of Agriculture, teaching-scientific laboratories and educational scientific-research farms are used; computer classes connected to the Internet and equipped with a package of traditional programs; Laboratory of "Subtropical Crops" and "Technical Crops and Medicinal Plants". Students will develop practical skills in the university training farms.

3. Department of Tourism and Landscape Architecture

All the conditions for research in the field of landscape architecture have been created at the faculty: there is a functioning computer class equipped with 3D programs for designing gardens and parks. The department has white and color printers, 2 projectors, a camera, a laser rangefinder, a measuring wheel, an anemometer, and other devices that allow environmental planning, vegetation study, and the creation of greening-reconstruction projects with 3D programs. (including the so-called "Archikad" and "Lumion"). The study and processing of agro-technical issues of plants takes place on the territory of the partner organization and the university (Kutaisi decorative plant nursery "Nemo Kakushadze" and the scientific research and training farm of the faculty).

There is appropriate inventory/equipment for research in the direction of tourism, such as tents, sleeping bags, etc. The department has a tourism laboratory equipped with computers and other technical means, as well as an application has been submitted to the university administration and there is a readiness to arrange another computer class equipped with the latest operating system.

4. Department of Agricultural Engineering

1. Tractor and vehicle structures laboratory (descriptive course) cabinet;
2. The applied mechanics laboratory (cabinet) is equipped with visible materials: (mechanical transmission mock-ups, cylindrical, conical, screw reducers, planetary and wave transmission mock-ups, demonstration posters);
3. Operation and repair laboratory-cabinet. Equipped with car engine bays, gearboxes, undercarriage

structures, front and rear axles, steering mechanisms and other structural components.

4. Two computer classes;
5. Laboratory of electrical equipment and electric drives (cabinet):

5.1. Laboratory (class) of machine mechanisms and materials science. Equipped with Rockwell, Brinell and Vickers toughness measuring devices, impact viscosity measuring pendulum urn, visible constructions of machines and mechanisms.

5.2. Laboratory (cabinet) of technical measurements and interchangeability: It is equipped with a measuring tool (micrometers, calipers, calibrators, unique gauge, rod gauge, gear tooth height gauges, etc.).

Tools, equipment, devices:

1. Tractor T150K, "Sintai-18", "Sintai-180";
2. Six-hull plow - 1 piece;
3. Plow with single body - 1 piece;
4. "Motor Graver" (moto block) - 1 piece;
5. "Motor Buffer" motoblock - 1 piece;
6. Two-hull plow - 1 piece;
7. Peel - 1 piece;
8. Two-section seed drill - 1 piece;
9. Cultivator - 1 piece;
10. Milling - 1 piece; mower - 1 piece;
11. Tractor coupling - 2 pieces;
12. Motoblock cultivator - 2 pieces.

5. Department of Subtropical Crops Product Technology

The department has 5 teaching-research laboratories:

- ✓ Laboratory of technology of subtropical crops products;
- ✓ Laboratory of biotechnology and microbiology;
- ✓ Storage of agricultural raw materials - processing laboratory;
- ✓ Laboratory of chemical analysis and expertise;
- ✓ Laboratory of biochemistry and food products.

Laboratories are equipped with laboratory equipment, chemical vessels and reagents.

Special laboratory work sets are used for the implementation of training courses: biochemistry, engineering enzymology, biotechnology, production microbiology.

Laboratory devices are also used for teaching and research work in the specified laboratories:

Technical scales (BAKT-500-M), analytical scales (No. 51144; BAP-200), thermostats, water distillation cube (D3-2-4M; TY-64-1-721-79; No. 20722), water baths Polish (LAZMA WODN TY LWmLshW3), Kamovsky pump, microscopes, centrifuge, sieve WU 4, muffle furnace-MP-2YM No. 47135, microbiological thermostat TC-8OY42 No. 4430, refractometer ИРФ-454ЬЬМ No. 901174, photoelectrocolorimeter КФК-Z; No. 911917, Ph meter – 211

6. Scientific-Research Center of Agrarian Directions

Citrus plants

N	The genus of the plant	type of plant	age	quantity
1	Citrus	Lemon Meyer	14 years	15
2	Citrus	Lemon Meyer	8	10
3	Citrus	Lemon Villafranca	14	5
4	Citrus	Georgian lemon	9	1
5	Citrus	Lemon is a dioscurium	8	1
6	Citrus	Mandarin early	9	5
7	Citrus	Tangerine broad-leaved unshiu	12	20
8	Citrus	Tangerine Broadleaf Unshu Clone N2	10	2
9	Citrus	Mandarin Kowano-Vase	9	6
10	Citrus	Mandarin Miho- Wase	9	2
11	Citrus	Grapefruit Duncan	14	6
12	Citrus	Grapefruit Imereti	12	1
13	Citrus	Local oranges	8	10
14	Citrus	Navel Orange Washington Navel	12	2
15	Citrus	Pompelmous dessert shadok	9	6
16	Citrus	Pompelmus pear-shaped shadok	9	10
17	Citrus	Ichangenzis lemon	8	2
18	Citrus	Complex hybrid of ichangenzis "Caucasia"	10	1
19	Poncyrus	Common trifoliata	6	2000
20	Poncyrus	Early vowel trifoliata	10	20
21	Fortuna	Kinkan	9	1
22	1-8/40 Grant hybrid seedlings	Seedlings in different combinations	8	44

7. Training farms of Nosiri and Mukhiani:

1. Tractor "Golden 118" - 1 piece not in working condition
2. Water gasoline pump - 1 piece
3. Poisoning device with accumulator - 3 pieces
4. Poisoning device with gasoline - 1 piece
5. Mower - 3 pieces
6. Grinding machine - 2 pieces
7. Cutting scissors - 4 pieces
8. and other working inventory

Appendix 6

Internationalization of academic staff and students

Cooperation within the framework of the Norwegian project "Sustainable tourism in Norway and Kyrgyzstan" continued from the 2018-2019 academic year. In the fall semester, 1 student studied for his master's thesis at Southeastern University of Norway; 4 students and 3 professors of the master and bachelor program of tourism participated in the summer schools, they started working on the creation of joint training courses; In the international scientific conference "North-Atlantic Forum" held in Norway, 2 academic staff made a report. In 2019, 1 academic staff participated in a workshop at Southeastern University of Norway; On March 10-17, 2019, 3 students from different universities of Kyrgyzstan were in the university in the field of tourism to complete their diploma/master theses; Students majoring in tourism took part in an international conference;

In 2020, a memorandum was signed with Ushak University School of Applied Sciences (Turkey);

In 2021, a memorandum was signed with the West University of Timisoara (Romania).

In 2022:

1. The students and professors of the agroecology and plant protection module of the educational program "Agronomy" were in the Republic of Turkey at Artvini Chorokhi University and Trabzon Karadeniz Technical University in order to implement the practical component provided by the curriculum of the program.

2. On November 18-19, 2022, an international scientific-practical conference "New Initiatives" was held at the Faculty of Agriculture, in which 10 international speakers participated.

In 2023 :

1. With the Erasmus+ program, tourism direction assoc. Professor Isolda Khasaya was on teaching mobility at Southeastern University of Norway;

2. With the Erasmus+ program, 3 academic staff from the field of tourism participated in the International Staff Week at Ushak University (Turkey): Associate Professor - I. Khasaya, N. Sharabidze, Asst. Prof. M. Diakonidze;

3. Under the Erasmus+ program, 3 associate professors from the Southeastern University of Norway were in ASU and gave lectures to tourism students;

Participation in the meeting in Bishkek, Kyrgyzstan: final report of the Norwegian educational project "Sustainable tourism: rural entrepreneurship and heritage" and discussion of project proposals for future cooperation

4. Under the Erasmus+ program, 1 student of the bachelor's program in tourism studied at the Southeastern University of Norway.

5. In the direction of landscape architecture, business relations are established with the Department of Landscape, Environmental Protection and Planning of the University of Evora (Portugal), whose representative visited the department from May 29 to June 3, 2023 within the framework of the Erasmus+ project.

6. Professor Ane Gri Gudmunstoter of the Southeastern University of Norway was present at the Faculty of Agriculture under the Erasmus + program (06.06.2023), who gave a lecture on "Tourism and

Destination Development" to the students of the tourism specialty, after which a discussion and debate took place.

7. Ms. Ruth Sousa Matos, assistant professor of the Department of Landscape, Environmental Protection and Planning of the University of Evora (Portugal) visited the Faculty of Agriculture for 5 days within the framework of the Erasmus + mobility program (29.05.-03.06.2023).

8. An international congress in engineering and life sciences was held in the Black Sea (Karadeniz) Technical University in the city of Trabzon, Turkey, with the motto: life - carbon balance, where Professor Roza Lortkifanidze, head of the department of agronomic sciences of the Faculty of Agriculture, Associate Professor Nunu Chachkhyan and distinguished student Ruskan participated. Tskifurishvili, who made a report on the topic - "Carbon emission and urban climate in Georgia (20-23.09.2023).

9. A memorandum of cooperation between Akaki Tsereteli State University and Hungarian Agricultural University "MATE" was signed at the initiative of the Faculty of Agriculture.